DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-011272
Date Inspected: 04-Jan-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 645
OSM Departure Time: 1845
Location: Shanghai, China

CWI Name: Liu Fawen

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
				Approved WPS:	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Orthotropic Box Girder (OBG) Components

Summary of Items Observed:

On this date Caltrans Office of Structural Materials Quality Assurance Inspector, Sandeep Kumar (QA) was present during the times noted above for observations relative to the work being performed.

BAY 2

The following Non Destructive Testing (NDT) inspection carried out as per the ZPMC submitted Notification No. 004989
Magnetic Particle Testing (MT)
This QA inspector performed MT of approximately 15% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA Inspector generated an MT report for this date. The member is identified as OBG Component. The weld designations reviewed are as follows:
1. FB3071 – 001 – 001~008 – Green Tag # 11279

Green Tags
The following green tags issued for the OBG components after completing the NDT requirements are:
1. LD003-061-001~012 – Green Tag # 11962
2. LD002-050-001~012 – Green Tag # 11961
3. LD008-006-001~012 – Green Tag # 11967
4. LD001-050-001~012 – Green Tag # 11960
5. LD009-012-001~012 – Green Tag # 11968

6. LD004-061-001~012 – Green Tag # 11964
7. LD004-062-001~012 – Green Tag # 11965

BAY 3

This QA Inspector observed the following work in progress:

Shielded Metal Arc Welding (SMAW):
Weld joint # 026 located on Floor Beam FB205 – 044. Welder is identified as 057795. ZPMC Quality Control (QC) Inspector is identified as Guo Yuan Ting. The welding variables recorded by QC appeared to comply with the WPS – B – P – 2212 – B – U2.

Flux Core Arc Welding (FCAW):
Weld joint # 036 located on Corner Assembly CA3002C – 2. Welder is identified as 051356. ZPMCQuality Control (QC) Inspector is identified as Guo Yuan Ting. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2132 – 3.

Weld joint # 058 located on Floor Beam FB204 – 042. Welder is identified as 204338. ZPMC Quality Control (QC) Inspector is identified as Guo Yuan Ting. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2233 – B – U2 – F – 1.

Weld joint # 285 located on Corner Assembly CA3004D. Welder is identified as 044801. ZPMC Quality Control (QC) Inspector is identified as Guo Yuan Ting. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2132 – 3.

BAY 5

The following Non Destructive Testing (NDT) inspection carried out as per the ZPMC submitted Notification No. 004990
Ultrasonic Testing (UT)
This QA inspector performed UT of approximately 10% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA Inspector generated an UT report for this date. The members are identified as OBG Components. The weld designations reviewed are as follows:
1. CB202A – 016 – 014
2. FB205 – 049 – 031; 032; 039; 040
3. FB205 – 050 – 031; 032; 039; 040
4. FB205 – 051 – 031; 032
5. FB205 – 052 – 031; 032

This QA Inspector observed the following work in progress:

Flux Core Arc Welding (FCAW):
Weld joint # 014 located on Traveler Rail 11TR10 – 002. Welder is identified as 250353. ZPMC Quality Control (QC) Inspector is identified as Zhong Chong Biao. The welding variables recorded by QC appeared to comply

with the WPS – B – T – 2232 – Tc – U5 – F.

Weld joint # 014 located on Traveler Rail 11TR3 – 009. Welder is identified as 069895. ZPMC Quality Control (QC) Inspector is identified as Zhong Chong Biao. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2232 – Tc – U5 – F.

Weld joint # 014 located on Traveler Rail 11TR1 – 002. Welder is identified as 067275. ZPMC Quality Control (QC) Inspector is identified as Zhong Chong Biao. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2232 – Tc – U5 – F.

This QA Inspector observed the following work not in compliance:
During random 10% verification Ultrasonic Testing (UT) of OBG Crossbeam 16, this Quality Assurance Inspector (QA) discovered the following issue:
One (1) Class “A” non conforming longitudinal indication measuring approximately 30 mm in length.
The weld is a complete joint penetration (CJP) corner joint, joining Side Plate SP203A to Deck Plate DP204A and is identified as CB202A-016-002.
The discontinuity rating is +3, Class “A” reject
Depth of the discontinuity from face A is approximately 13 mm, and Y location was 1920mm when measured from the north end of the crossbeam.
The Material thickness is 18 mm.
The member is located in fabrication Bay 5.
The indication is in an area previously tested and accepted by ZPMC QC UT technicians.
The Notice of Witness Inspection Number (NWIT) is 004990.

Applicable reference:
Special Provisions Section 8.3 – “Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents.”
AWS D1.5 Section 6.26.3.1 – “Welds that are subject to UT in addition to visual inspection shall be acceptable if they meet the following requirements:… (1) Welds subject to tensile stress under any condition of loading shall conform to the requirements of Table 6.3…(2) Welds subject to compressive stress shall conform to the requirements of Table 6.4.”
AWS D1.5-02 Section 6 – Table 6.3

This QA notified ZPMC QC identified as Mr.Zhong Chong Biao and ABF inspector identified as Mr. Wang Wen Bin of the above issue and that an incident report will be generated.
See attached photos:

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

WELDING INSPECTION REPORT

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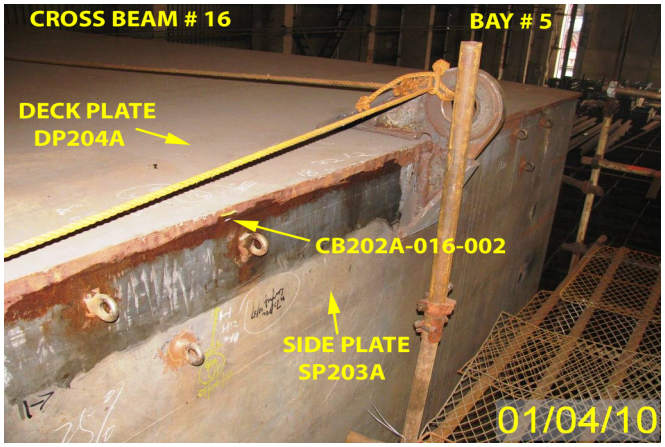

Summary of Conversations:

No Relevant Conversations.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang - 15000422372, who represents the Office of Structural Materials for your project.

Inspected By:	Kumar,Sandeep	Quality Assurance Inspector
Reviewed By:	Hall,Steven	QA Reviewer